# Clinical Laboratory Practices for the Isolation and Identification of *Campylobacter* in FoodNet Sites: Do Differences Explain Variation in Incidence Rates?

**S. Hurd[1], S. Shin[2], A. Cronquist[3], S. Segler[4], J. Kiehlbauch[5], E. Laine[6], G. Smith[7], J. Hatch[8], S. Hanna[9] L.Demma[10 11], C. Fitzgerald[10] and the EIP Working Group**

[1]Connecticut Emerging Infections Program, New Haven, CT, [2]California Emerging Infections Program, Oakland, CA,[3]Colorado Department of Public Health and Environment, Denver, CO [4]Georgia Division of Public Health, Atlanta, GA, [5]Maryland Department of Health and Mental Hygiene, Baltimore, MD [6]Minnesota Department of Health, Minneapolis, MN, [7]New York State Department of Health, Albany, NY, [8]Oregon Department of Human Services, Portland, OR, [9]Tennessee Department of Health, Nashville, TN, [10] Centers for Disease Control and Prevention, Atlanta, GA, [11]Atlanta Research and Education Foundtion, Atlanta, GA

## Abstract

Background: In 2004, the overall incidence (cases/100,000 persons) of laboratory-confirmed *Campylobacter* infections reported by the Foodborne Diseases Active Surveillance Network (FoodNet) was 13 (range 5 in MD to 29 in CA). Previous surveys of clinical laboratories have found no measurable differences in frequency of culture as an explanation for regional differences. We conducted a *Campylobacter* Laboratory Survey to determine whether specific laboratory practices correlate with variation in laboratory-confirmed incidence observed in FoodNet.

Methods: Microbiologists in clinical laboratories in the FoodNet catchment area were surveyed about their laboratory practices used for *Campylobacter* isolation and identification. The sites were divided into low (L=GA, MD, NY, TN) and high (H=CA, CO, CT, MN, OR) incidence categories based on 2004 FN data. Factors potentially affecting isolation rates were examined including routine use of transport media, selective media, temperature, and incubation time. Speciation and antimicrobial susceptibility testing were also assessed.

Results: Responses were received from 499 (86%) of the 582 laboratories surveyed. Preliminary analysis showed that among the 401 laboratories reporting on-site stool testing, 390 (97%) tested specimens for *Campylobacter*, 352 (90%) routinely. Three hundred (77%) reported receiving stools in transport media; 194 (52 %) used CampyBAP for primary isolation; 362 (95%) incubated plates at $42^0$C; 203 (53%) held plates for 48 hours. Sites with higher incidence rates were more likely to test routinely for *Campylobacter* (95% vs 87%, $p<0.01$), hold plates for 72 compared to 48 hours (54% vs 39%, $p<0.01$) and use transport media (87% vs 69%, $p<0.01$). Only 3% of all labs reported doing antimicrobial testing, and 31% reported routine speciation.

Conclusions: This survey showed differences in methods such as routine culturing, length of incubation and use of transport media that might explain the regional variation in incidence rates among the FN sites. Use of data from this survey as well as comparisons with surveys done internationally could be the foundation for recommendations for clinical laboratories for *Campylobacter* testing.